

FLAME RETARDAND: FRX – A105

Description

FRX-A105 can fully replace antimony trioxide in traditional bromine–antimony flame retardant systems used in glass fiber-reinforced nylons (such as PA66 and PA6), while maintaining the same high standard of flame retardancy and mechanical performance. It also offers excellent electrical properties, heat resistance, and low migration, giving it a well-rounded performance advantage.



No plate-out under high temperature/humidity.



Better mechanical properties.



Stronger flame retardant efficiency, lower dosage levels.

Technical Data

Property	Unit	Typical Value
Bulk Density	gram/cm ³	0.5 – 0.8
Moisture	wt %	≤ 0.5
Phosphorus Content	wt %	≥ 18.0



Typical Applications: Glass Fiber-reinforced PA66+PA6

FRX-A105, used as a direct replacement for Sb₂O₃ at the same dosage in 30 wt% glass fiber-reinforced (PA66+PA6) nylon, delivers equivalent flame retardancy and mechanical properties – without the need to modify the existing formulation or processing conditions.

Components	Bromine-antimony system (wt %)	At a 1:1 Ratio Substitute Sb ₂ O ₃ by FRX-A105 (wt %)
PA66	33.9	33.9
PA6	12	12
Short Glass Fiber	30	30
Brominated Polystyrene	18.5	18.5
Sb ₂ O ₃	5	--
FRX-A105	--	5
Lubricant/Antioxidant	0.6	0.6
Total	100	100

Property	Testing Protocol	Unit	Performance Results	
Tensile Strength	GB/T 1040-06	MPa	148	147
Flexural Modulus	GB/T 9341-08	MPa	9765	9813
Notch Impact Strength	GB/T 1803-1-08	kJ/M ²	10.2	10.1
Flame Resistance	UL94	1.6 mm	V-0	V-0
		3.2 mm	V-0	V-0

Disclaimer

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